

## ABSTRACT

A control device for controlling an engine, comprising a variable lift mechanism capable of changing the lift of a valve and a variable  
5 compression ratio mechanism capable of changing a compression ratio in a combustion chamber. The control device controls the variable lift mechanisms and the variable compression ratio mechanism so that, when a requested engine output is increased, a compression ratio decreasing rate is increased over a lift increasing rate and, when the requested engine output  
10 is reduced, a lift decreasing rate is increased over a compression ratio increasing rate. When the engine comprises a variable phase mechanism capable of changing the phase of the valve, the control device controls the variable compression ratio mechanism and the variable phase mechanism so that, when the requested engine output is increased, the compression  
15 ratio decreasing rate is increased over the change rate of the phase to a delay angle and, when the requested engine output is reduced, the change rate of the phase to an advance angle is increased over the compression ratio increasing rate. Thus, the contact of the valve with a piston can be avoided.

(Figure 8)